

A NEW SPECIES OF THE GENUS *TRACHUSA* FROM
CALIFORNIA WITH A KEY TO THE
KNOWN SPECIES

(Hymenoptera: Megachilidae)

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The genus *Trachusa* Panzer has been represented previously by three species, one from Eurasia, one from California and one from Arizona and Sonora, Mexico (Michener 1941, 1948). A new species is described here from California to make the name available for use in comparative ecological studies.

Trachusa gummifera Thorp, new species

Female—Integument black; pubescence pale, ferruginous medially on face, vertex, dorsum of thorax, inner surfaces of basitarsi, medially on apical depression of metasomal tergum 6, and abdominal scopa, whitish near eyes, on genae, thoracic pleura, and forming medially interrupted bands on apical depressed margins of metasomal terga 1-5. *Head*, except clypeus and supra-clypeal area, finely, closely punctate; clypeus and supra-clypeal area rather coarsely punctate, region of suture separating these sclerites somewhat elevated and impunctate, median longitudinal line of clypeus somewhat elevated, impunctate basally, punctate apically; apical margin of clypeus with about seven or eight small denticulations; labial papi with third segment longer than fourth (ratio of 4:3). *Mesosoma* finely and closely punctate; reddish dorsal pubescence short, uniform and dense; whitish pleural pubescence long and dense, increasing in length ventrally; propodeal enclosure punctate above, impunctate but minutely tessellate below. *Metasoma* with margins of terga 3-5 strongly and abruptly depressed, less strongly abruptly depressed on terga 1 and 2; punctures on basal area of second tergum uniformly separated by one puncture diameter, punctures on terga 3-5 tending to be closer on succeeding segments; punctures of apical depression of terga 2-5 about same size as those of basal area but almost contiguous; fifth tergum with posterior margin feebly and broadly emarginate medially; sixth tergum with wide, basal, transverse, strongly and abruptly elevated ridge with median emargination; posterior margin of sixth tergum produced medially as a horizontal flange, feebly emarginate medially; whitish pubescence long dorsolaterally on tergum 1, short in medially interrupted apical bands of terga 1-5; ventral scopa with long, dense, reddish, stiff, simple hairs. Length approximately 14 mm. Forewing length 10 mm.

Male—Integument black, except facial maculations; pubescence pale, ferruginous on vertex, thoracic dorsum and inner surfaces of basitarsi, whitish on rest of head, thoracic pleura and apical depressed margins of metasomal terga 1-5. *Head* with punctation as in female; clypeal maculation cream colored grading to brownish peripherally; clypeus not entirely macu-

late but with depressed, thin, black border laterally with punctures fine and contiguous, black border increasing in width basomedially from anterior tentorial pit with punctures large and contiguous, maculation along the median longitudinal raised area almost reaching fronto-clypeal suture; lateral facial maculations (absent in some male paratypes) each consisting of a small brownish spot about the size of larger clypeal punctures and located about one-fourth the distance from anterior mandibular articulation to base of antenna; mandibles with apical tooth rather stout, its tip farther from tip of second tooth than latter is from third; labial palpi with third segment longer than fourth (ratio of 4:3). *Mesosoma* and metasomal terga 1-5 similar to female. *Metasoma* with sixth tergum with posterior margin broadly rounded, the entire margin produced as a flange, delimited basally by the subapical, transverse, feebly nodulose keel, which curves anteriorly at the sides and gives off medially a short, subtriangular posterior projection not nearly reaching posterior margin of segment; seventh tergum with longitudinal median ridge dorsally, posterior margin a heart-shaped fold with broad lateral lobes and shallow median emargination; sterna 2-4 with apical margins straight, not provided with long hairs; fifth sternum with lateral margins broadly convex, feebly emarginate medially; sixth sternum with apical margin broadly rounded and folded ventrad with a small median, anteriorly directed, truncate tooth; eighth sternum elongate, posterior margin with short, narrow, parallel-sided, apically emarginate, median process, the posterolateral borders broadly rounded. Length approximately 13 mm. Forewing length 9.5 mm.

Holotype female and allotype (California Academy of Sciences, San Francisco), from CARSON RIDGE, MARIN COUNTY, CALIFORNIA, June 11, 1960 (J. F. Lawrence); and 42 paratypes as follows: same locality 30 ♀, 3 ♂, vi-11-60 (J. F. Lawrence and J. R. Powers; C.I.S., G.I.S.),¹ 2 ♀, 1 ♂, v-30-59 (C. W. O'Brien and J. R. Powers; G.I.S.), 3 ♀, vi-15-62 (P. D. Hurd and R. W. Thorp; C.I.S., R.W.T.), 2 ♀, vi-30-62 (R. W. Thorp; R.W.T.). San Francisco Co.: San Francisco, 1 ♀, vi-22-57 (D. Rentz; G.I.S.).

This species is related to *T. perdita* Cockerell and may be separated from this and other species of *Trachusa* by the following key. The female of *T. manni* Crawford is not known and I have not seen the male types. Therefore, I have relied on the original description (Crawford, 1917) and the redescription and key presented in Michener (1941).

MALES

1. Mandibles largely yellow; propodeal enclosure impunctate or only narrowly punctate above; sixth and seventh terga simple, without subapical folds or ridges. (Palearctic).....(*serratulae*)=*byssina* (Panzer)

¹ The abbreviations for the collections are as follows: California Insect Survey, University of California, Berkeley (C.I.S.); Gerald I. Stage, Berkeley (G.I.S.); R. W. Thorp, Berkeley (R.W.T.).

- Mandibles black; propodeal enclosure with broad punctate band above; sixth tergum with transverse subapical carina, seventh with a median longitudinal ridge and (except in *gummiifera*) a variously modified subapical fold. (Nearctic).....2.
2. Sixth tergum with posterior margin produced and subtruncate medially; mandible with distance from end of apical tooth to end of second tooth less than distance between apices of second and third teeth. (S. Arizona and Sonora, Mexico).....*manni* Crawford
Sixth tergum with posterior margin evenly rounded; mandible with distance from end of apical tooth to end of second tooth greater than distance between apices of second and third teeth. (Cismontane California)3.
3. Cream colored facial maculations covering entire clypeus and sides of face truncate below level of antennae; labial palpus with segments 3 and 4 subequal in length; seventh tergum with a transverse, subapical, elevated fold enclosing a median, apical depressed, smooth, brown plate; eighth sternum with trilobed apex. (South Coastal, Transverse and Peninsular Ranges).....*perdita* Cockerell
Cream colored facial maculations not covering entire clypeus nor lower sides of fact; clypeus with thin, black border laterally, increasing in width basally, lateral facial maculations when present, consisting of brownish spot on each side, about the size of larger clypeal punctures; labial palpus with third segment longer than fourth (ratio 4:3); seventh tergum without subapical fold or median, apical, depressed plate; eighth sternum with only a single median apical lobe. (San Francisco Bay area).....*gummiifera* Thorp

FEMALES

1. Sixth tergum simple; propodeal enclosure impunctate or only narrowly punctate above.....(*serratulae*)=*byssina* (Panzer)
Sixth tergum with strong basal elevation; propodeal enclosure with broad punctate band above.....2.
2. Labial palpus with segments 3 and 4 subequal in length; basal elevation of sixth tergum separated by vertical or overhanging fold from produced flange-like margin.....*perdita* Cockerell
Labial palpus with third segment longer than fourth (ratio 4:3); basal elevation of sixth tergum with shallow median emargination.....
..... *gummiifera* Thorp

REFERENCES

- CRAWFORD, J. C.
1917. New Hymenoptera. Proc. Ent. Soc. Wash., 19: 165-172.
- MICHENER, C. D.
1941. A synopsis of the genus *Trachusa* with notes on the nesting habits of *T. perdita* (Hymenoptera, Megachilidae). Pan-Pacific Ent., 17 (3): 119-125.
1948. The generic classification of the Anthidiine bees (Hymenoptera, Megachilidae). Amer. Mus. Novitates no. 1381, 29 pp.